## CLAIMS

**What is claimed is:**

1. An assembly for an electrochemical cell, comprising:

a plurality of self-aligning plates, each plate having at least one projection extending outward from the plane of the plate and at least one recess adapted to receive the ends of the projections of another plate.

2. The assembly of claim 1, wherein the at least one recess is adapted to frictionally engage the ends of the projections of another plate.

3. The assembly of claim 1, wherein the projection and recess interlock to maintain the relative position of the plates.

4. The assembly of claim 1, wherein the depth of the recess is sufficient to receive the projection without limiting compression of the plates.

5. The assembly of claim 1, wherein the plurality of plates includes at least one plate having a projection made from a polymer.

6. The assembly of claim 1, wherein the at least one projection is a plurality of projections positioned on the plates in a manner that will only interlock with the recesses of another of the plates if the relative orientation of the plates provides proper alignment of a plurality of manifolds in the plates.

7. The assembly of claim 6, wherein the plurality of projections are not evenly spaced about the plates.

8. The assembly of claim 1, further comprising:

an adhesive disposed between two of the self-aligning plates.

9. The assembly of claim 1, wherein two or more of the interlocking plates are coupled within a subassembly.

10. The assembly of claim 1, wherein a self-aligning plate of a first subassembly is coupled to a self-aligning plate of a second subassembly.

11. The assembly of claim 1, further comprising:

an intermediate plate disposed between the self-aligning plates and having at least one passageway through the plate for alignment with the at least one projection of an adjacent self-aligning plate.

12. The assembly of claim 1, wherein the self-aligning plates comprise interlocking frames.

13. A bipolar plate assembly for an electrochemical cell, comprising:

a first interlocking plate having at least one projection extending outward from the plane of the first plate;

a second interlocking plate having at least one recess adapted to receive the ends of the projections of the first plate; and

a gas barrier disposed between the first and second interlocking plates and having at least one passageway through the barrier for alignment with the at least one projection of the first plate.

14. The bipolar plate assembly of claim 13, wherein the second plate has at least one projection extending outward from the plane of the second plate, the assembly further comprising:

a third interlocking plate having at least one recess adapted to receive each of the at least one projection from the second plate; and

a second gas barrier disposed between the second and third interlocking plates and having at least one passageway through the second gas barrier for alignment with the at least one projection of the second plate.

15. The bipolar plate assembly of claim 13, wherein the first and second plates form flowfields.

16. The bipolar plate assembly of claim 3, wherein the first and third plates form reactant flowfields and the second plate forms a cooling fluid flowfield.